



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/411,434	10/01/1999	JEAN-LOUIS TARDIEUX	TI-28234	8297

23494 7590 03/04/2004

TEXAS INSTRUMENTS INCORPORATED  
P O BOX 655474, M/S 3999  
DALLAS, TX 75265

EXAMINER

MEONSKE, TONIA L

ART UNIT	PAPER NUMBER
----------	--------------

2183

DATE MAILED: 03/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/411,434

**Applicant(s)**

TARDIEUX, JEAN-LOUIS

**Examiner**

Tonia L Meonske

**Art Unit**

2183

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7, 8 and 13-20 is/are rejected.
- 7) ☒ Claim(s) 6 and 9-12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 1 is objected to because of the following informalities: In line 6, please change the limitation "conflicts" to --conflict--. Appropriate correction is required.
2. Claim 14 is objected to because of the following informalities: In line 5, please change the limitation "conflicts" to --conflict--. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 4, 5, 7, 14, 15, 16, 17, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith and Sohi, "The Microarchitecture of Superscalar Processors," IEEE, 1995 (herein referred to as Smith).
5. The rejections to claims 1, 2, 4, 5, 7, 14, 15, 16, 17, and 19 are respectfully maintained and incorporated by reference as set forth in the last office action, paper number 12, mailed on January 27, 2003.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith and Sohi, "The Microarchitecture of Superscalar Processors," IEEE, 1995 (herein referred to as Smith) in view of Nelson et al., Digital Logic Circuit Analysis & Design, 1995 (herein referred to as Nelson).

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith and Sohi, "The Microarchitecture of Superscalar Processors," IEEE, 1995 (herein referred to as Smith) in view of Burke et al., U.S. Patent Number 5,333,176 (herein referred to as Burke).

9. Claims 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith and Sohi, "The Microarchitecture of Superscalar Processors," IEEE, 1995 in view of Liptay US Patent 4,287,561.

10. The rejections to claims 3, 8, 13, 18 and 20 are respectfully maintained and incorporated by reference as set forth in the last office action, paper number 12, mailed on January 27, 2003.

***Response to Amendment***

11. Applicant's arguments filed August 27, 2003 have been fully considered but they are not persuasive.

12. On page 6, Applicant argues in essence:

*"Claim 1 is amended to clarify "interlock circuitry for anticipating a particular access conflict" and "a particular data item from a first pipeline stage can be redirected from a protected resource into a selected shadow register only in response to the particular access conflict anticipated by the interlock circuitry." As argued in the previous response filed Nov 13, 2002, Smith does not suggest anticipating a particular conflict and redirecting a particular data item to a shadow register, hut instead teaches that every data transfer is sent to a temporary location, regardless of whether a conflict was present or not Applicant's novel approach overcomes the complexity of keeping track of all data writes inherent in Smith's approach. Claim 1 is therefore allowable over Smith.*

*a. Independent claim 14 is amended in a similar manner and is therefore also allowable over Smith for the reason discussed above."*

However, Smith has in fact taught the newly amended claim language. The claimed limitation "a particular access conflict" is a register dependency of Smith (Page 1612, first full paragraph). Furthermore, the claimed limitation "a particular data item from a first pipeline stage can be redirected from a protected resource into a selected shadow register only in response to the particular access conflict anticipated by the interlock circuitry" is in fact taught by Smith as registers are only reassigned when a register dependency occurs (Pages 1614 and 1615, first, second, and third paragraphs of section B). Therefore this argument is moot.

***Allowable Subject Matter***

13. Claims 6 and 9-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

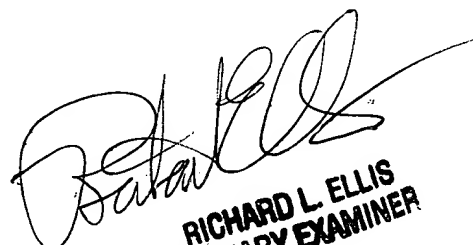
14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tonia L Meonske whose telephone number is (703) 305-3993. The examiner can normally be reached on Monday-Friday, 9-6:30, with every other Friday off.

15. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie P Chan can be reached on (703) 305-9712. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2183

16. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

tlm



**RICHARD L. ELLIS**  
**PRIMARY EXAMINER**